

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and light of the remarks which follow are respectfully requested.

Claims 1-6, 8-20 and 22-42 are pending in the application, claims 7 and 21 having been canceled and claims 35-42 having been newly presented above. Support for the newly presented claims can be found at least in the original claims. Independent claims 1 and 15 have been amended by more particularly pointing out the structure of the first carrier body. Support can be found at least in original claims 12 and 26, respectively. The term "includes" has been replaced with "comprises" in claims 29 and 32. The remaining amendments are for consistency with the aforementioned amendments, grammatical in nature or otherwise for form. Figure 2 has been amended to show reference numeral 212.

Turning now to the Official Action, the drawings stand objected to for the reasons set forth in section 1 if the Official Action. This objection has been obviated by the attached amendment to Figure 2, by which reference numeral 212, denoting a groove, has been added. Accordingly, withdrawal of this objection is respectfully requested.

Claims 1-7, 15-21 and 29-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Liu et al* (U.S. Patent No. 6,246,812) in view of *Shahid* (U.S. Patent No. 6,246,812). This rejection is respectfully traversed for at least the following reasons.

The present invention relates to optical assemblies and to methods for assembling optical waveguides, and more particularly, to ferrules for optical waveguides.

Liu et al relates to collimators for use with DWDM multiplexor or demultiplexor, and particularly to dual fiber collimators with V-groove positioning devices. *Liu et al* discloses a V-groove ferrule means 12 comprising a V-groove chip 14 defining a pair of V-shaped grooves 16 and a cover chip 20 positioned on the upper face 18 of the V-groove chip 14, commonly enclosed by a protective guiding sleeve 22. A first optic fiber 24 and a second optical fiber 26 are respectively received within the corresponding V-shaped grooves 16 of the V-groove chip 14 and generally sandwiched between the V-groove chip 14 and the cover chip 20. (Col. 2, lines 28-38).

Liu et al does not disclose or suggest each feature of the present invention. For example, *Liu et al* does not disclose or fairly suggest first and second carrier bodies having first and second grooves, respectively, as set forth in independent claims 1, 15 (plurality of such grooves) and 29. Quite to the contrary, *Liu et al* specifically discloses a cover chip having no groove whatsoever.

Liu et al further does not disclose or suggest a first carrier body having a cross-sectional configuration in a plane perpendicular to the longitudinal direction that is defined by at least opposite first and second parallel surfaces and opposite first and second non-parallel inclined surfaces, wherein one of the first or second parallel surfaces is the first principal surface of the first carrier body, as set forth in independent claims 1 and 15.

Nor does *Liu et al* appear to disclose or suggest chips made from silicon, as set forth in independent claims 29 and 32, contrary to the Examiner's contentions.

Moreover, *Liu et al* does not even remotely suggest the presently claimed methods set forth, for example, in claims 29 and 32. *Liu et al* is noticeably silent in this regard.

Shahid fails to cure the deficiencies in the primary reference. First, it is noted that persons skilled in the art would not have combined *Liu et al* with *Shahid* absent applicant's own disclosure. As described above, *Liu et al* relates to dual fiber collimators for use with DWDM multiplexors or demultiplexors. In stark contrast, *Shahid* relates to stackable ferrules for terminating optical fiber ribbons. Whatever the *Liu et al* ferrule chips are constructed of, it should be clear that the final form of the *Shahid* ferrules are not silicon at all – rather, the silicon chips corresponding to the inner and outer support members of *Shahid* are used to form a mold for injection molding and the silicon is then removed or destroyed. It should thus be clear that *Liu et al* cannot properly be combined with *Shahid*.

Moreover, even assuming (incorrectly) that one would have combined the two documents, deficiencies in the primary reference cannot be cured. For example, like *Liu et al*, *Shahid* does not disclose or suggest a first carrier body having a cross-sectional configuration in a plane perpendicular to the longitudinal direction that is defined by at

least opposite first and second parallel surfaces and opposite first and second non-parallel inclined surfaces, wherein one of the first or second parallel surfaces is the first principal surface of the first carrier body.

Further, as discussed above, the final structure of *Shahid* does not involve chips made from silicon. The *Shahid* ferrule is an injection molded material, such as polyphenylene sulfide. (Col. 8, lines 28-29). *Shahid* does not even remotely suggest each and every method step of independent claims 29 and 32. For example, that document does not suggest: etching a silicon wafer to form a plurality of trenches in the silicon wafer so as to extend parallel to one another between respectively adjacent pairs of parallel grooves; separating the silicon wafer into discrete chips; or placing an optical waveguide in a groove of a first one of the discrete chips.

Regarding the Examiner's taking of Official Notice, applicant respectfully traverses this rejection because there is no support in the record for the conclusion that the identified features are "well known" in the context of the present invention. In accordance with MPEP § 2144.03, the Examiner must cite a reference in support of his position.

For at least the foregoing reasons, withdrawal of this rejection is respectfully requested.

Claim 8-14 and 22-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Liu et al* in view of *Shahid*, and further in view of *Cherin et al* (U.S. Patent No. 4,142,776). This rejection is respectfully traversed for the following reasons.

Cherin et al is directed to structures for splicing optical ribbons.

The Examiner relies on *Cherin et al* for that document's alleged disclosure of "a waveguide carrier having an octagonal and trapezoidal cross-section" and "the inner periphery of said carrier tube conforming to the cross-sectional configuration of said waveguide carrier", with motivation for the combination being given as "improved fit and alignment of the optical fibers as taught by *Cherin et al* (column 3, lines 9-20)". It is noted that the cited portion of *Cherin et al* does not at all support the stated motivation for the rejection respecting the cross-sectional shape of the structure. In this regard, *Cherin et al* discloses a visible offset for grooved cavity 15, which is intentionally not

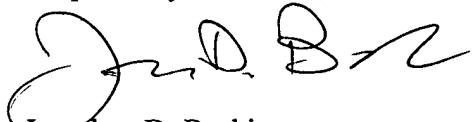
centered. This visible offset allows for alignment accuracy of splicing fibers. Clearly, *Cherin et al* provides no incentive or motivation for combining the references in the manner suggested in the Official Action. *Cherin et al* cannot cure each of the above-stated deficiencies in the combination of *Liu et al* and *Shahid*.

Accordingly, withdrawal of this rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at his earliest convenience.

Respectfully submitted,



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